UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF GRADUATE STUDIES

POSTGRADUATE DIPLOMA IN MANUFACTURING MANAGEMENT (SEMESTER 1)

January 2019

PGDip MM 5101/PgDMM 501 – Industrial Organization

Time: Three (03) Hours

Answer Question No (1) and any THREE (03) Questions.

(Question No (1) is Compulsory)

All questions carry equal marks

(1) Inclusive and sustainable industrialization is a decisive factor in achieving sustainable development of Sri Lanka. Such industrialization can unleash more dynamic and competitive economic forces that can generate more opportunities for employment, higher income generation sources and new business platforms for international trade, finally enabling more efficient use of resources and shared prosperity. In this context, government is supposed to perform a distinct role and should actively engage with the stakeholders of the industrial sector as the key facilitator by acknowledging their major contribution to sustainable industrialization of the country.

i) Explain the possible contribution of industrial sector on the economic growth and development in Sri Lanka.

ii) What is meant by Inclusive and Sustainable Industrialization?

iii) With the support of suitable empirical examples, explain the Backward and Forward Linkages of manufacturing sector development of the country.

iv) Discuss the possible relationship between Linkages and Leakages of manufacturing sector development. Use the assistance of suitable examples.

v) Explain the concepts of Economies of Scales and Economies of Scopes with the support of suitable examples in manufacturing sector development in Sri Lanka.

vi) Discuss the possible policy measures and effective strategies that can ensure the fair income distribution of industrialization in Sri Lanka.

(2) A comparative analysis of the performance of manufacturing sector of different countries with proper understanding of their best practices and successful achievements would be directly and positively instrumental to design possible effective strategies to develop the manufacturing sector of Sri Lanka.

Select one country of your choice. Compare and contrast between the manufacturing sector performance of your selected country and Sri Lanka on following aspects:

i) Competitiveness of Foreign Direct Investment
ii) List down the possible manufacturing products that can be exported from Sri Lanka to your selected country.
iii) Recent trends and patterns of manufacturing sector development
iv) Major policies and strategies for manufacturing sector development
v) Key lessons learned from the selected country for the development of manufacturing sector of Sri Lanka.

(3) Consider two consumers with following linear demand curves for Hamburgers

$$Qd_1 = 20 - 2.5P_H + 0.1I_1 - 2.25P_B$$

$$Qd_2 = 30 - 1.5P_H + 0.05I_2 - 1.75P_B$$

Where

P_H = Price of hamburgers

I_i = Individual i's income (in thousands of dollars)

P_B = Price of Mugs of Beer

(a) Suppose that $I_1 = 30$, $I_2 = 60$ and $P_B = 1$ and then construct the Market Demand Curve for hamburgers (Assume that consumers 1 and 2 constitute the entire market for hamburgers).

(b) Graph this market demand curve as the demand curve D_1

(c) Suppose the price of beer P_B increases to $3. Identify the new market demand curve as D_2. Plot this new demand curve on your original graph as D_2. Explain the position of D_2 relative to D_1. How do you explain this change with the aid of your theoretical knowledge?

(pto)

(d) Suppose that the price of hamburgers is increased at $5 (use P_B = $1).

(i) Identify the price elasticity of demand at $5.

(ii) Explain in what direction would the firm change price to increase revenues.

(ii) Identify the Cross-Price Elasticity of the demand of hamburgers. Explain the relationship between beers and hamburgers by using the value of Cross-Price Elasticity of the demand of hamburgers.

(e) Suppose that an income change affects both consumers by the same proportion, α, what would happen for the demand of both goods if following are given:

(i) Hamburgers are considered as an essential food for these consumers

(ii) A new high-end supper brand is introduced to this beer market.

(iii) Government provides a consumer subsidy for each unit of hamburgers.

(iv) Government imposes a consumer direct unit tax to beer consumers.

(f) Explain the nature of consumption of beers and hamburgers in relation with Engel's Law and Bennett's Law.

(4) Consider a pizza shop with a demand curve of: $Q^d = 100 - P$

Suppose that the Total Cost function for pizza is $TC = 1{,}000 + 20Q$

(a) Calculate the profit maximizing units of pizzas and the profit-maximizing price of pizzas and the amount of maximum profits.

(b) Explain your answer using P, MR, AR, MC, ATC and AVC curves.

(c) Identify the shutdown point for the firm and also the breakeven point for the firm.

(d) At the profit maximizing price, what is the price elasticity of demand?

(e) Explain the producer surplus at the profit maximizing price with the aid of suitable curves.

(f) How do you differentiate between the producer surplus and producer profits herewith?

(g) Explain the possible excess capacity at the operation of this firm in this market.

(h) Discuss the possible market structure represented by this pizza shop.

(i) Explain the factors that can determining the levels of profit of this firm. Use suitable curves and examples to illustrate your answer.

(5) Assume that two monitors of Pg. MM Batch-2018, Chinthaka and Gayan are expecting to sell smart phones. They have estimated the market demand for and market supply of these smart phones respectively as below:

$\mathbf{Q_D = 50{,}000 - 2P}$ and $\mathbf{Q_S = -10{,}000 + 8P}$

a). Calculate the equilibrium price and equilibrium quantity of these smart phones in this market.

b). Calculate the value of consumer surplus and producer surplus of these smart phones at this equilibrium price.

Suppose that as a result of customers' increasing demand for these smart phones, an additional 100 units of these smart phones are demanded at every price. However, there is no any change in the market supply.

c). Calculate the new equilibrium price and equilibrium quantity of these smart phones in this market.

d). Calculate the new value of consumer surplus and producer surplus along with this change in this market.

Assume that the government has imposed a unit tax of Rs. 1000 on each of these smart phones.

e). What is the expected revenue by the government from this tax?

f). What is the actual revenue gained by the government from this tax?

g). Calculate the amount of tax burden taken by supplier and consumer separately.

h). Explain what factors determining this tax burden distributed among the supplier and consumer.

i) Calculate the possible dead-weight lost occurred due to this tax.

j) What are factors determining the degree of this tax burden to consumer and supplier differently?

k) If the government has abolished this Rs. 1000 unit tax and introduce the same amount of unit tax from the customers of the smart phones, then calculate the new equilibrium price and quantity.

l) Chinthaka and Gayan have realized that their selling has been increased by 10% despite of imposing this customer-based unit tax. Explain in which conditions such situation can occur. Use suitable examples and curves to elaborate your answer.

(6) A car manufacturer sells cars in two separable markets. The marginal cost of each car sale is US$2.

For the first market, demand is given by

$Q_1 = 20 - 5P_1$

The demand equation for the second market is

$Q_2 = 20 - 2P_2$

(a). If this firm uses third-degree price discrimination, calculate the profit-maximizing price and the quantity in each market?

(b) Calculate the total profit of this firm under this price discrimination. (pto)

(c) Explain the factors determining the third-degree price discrimination of this firm.

(d) If the firm charges the same price in both markets, what will be the profit-maximizing price and the consequent total quantity? How much economic profit will the firm earn?

(e) Discuss the possible advantages and disadvantages of a monopoly market in operation.

(7) State whether each of the following statements is true or false. Explain your answers using the support of suitable curves, tables and examples.

a. In the long run, a monopolistic competitor will not produce at minimum ATC as there are too many firms producing too little output to achieve minimum ATC.

b. In oligopoly market structure, an analysis of Non- Collusive Models identifies the stickiness of prices due to a few number of firms with heterogenous productions.

c. In a natural monopoly, economies of scale extend over a wide-enough range of output that the lowest cost per unit is attained when a single firm produces for the entire market may not extend allowing more than one competitor to enter the industry.

d. New technologies limit the degree of concentration in an industry by creating new substitute goods and by breaking down barriers to entry.

e. Product differentiation is crucial to monopolistic competition.

f. The Kinked-Demand Curve explains the possible changes of the price of a product under monopolistic market structure.

(8) a) What are the factors affecting the pricing decisions of a firm?

b) What is meant by Three C's Model for Price Setting?

c) Explain the possible stages of setting pricing policy.

d) Discuss the Basic Pricing Rules with assistance of suitable curves.

e) Explain the following by using suitable examples from current business operations

(i) Product Life Cycle Pricing Strategies

(ii) Bundle Pricing

(iii) Destroyer/Predatory Pricing

(iv) Value-Based Pricing

(v) Product-Line Pricing